

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please CANCEL claims 17-20, 23 and 24, and AMEND claim 7 in accordance with the following:

1. (Original) A transfer power supply apparatus of an image forming machine applying a voltage in order to transfer an image created on an intermediate transfer medium onto a print medium conveyed between a transfer roller and a transfer backup roller, the transfer power supply apparatus comprising:

a voltage computation unit computing a transfer voltage corresponding to resistance of the intermediate transfer medium;

an output voltage generator generating the transfer voltage according to the output from the voltage computation unit; and

a switching unit selectively applying the transfer voltage output from the output voltage generator,

wherein the switching unit connects the transfer voltage output from the output voltage generator to the transfer roller when the image created on the intermediate transfer medium is transferred to the print medium, and connects the transfer voltage output from the output voltage generator to the transfer backup roller when the image is not transferred to the print medium.

2. (Original) The transfer power supply apparatus according to claim 1, wherein the voltage computation unit comprises:

a transfer electric current recognizer measuring an electric current flowing in the intermediate transfer medium;

a resistance computation unit computing resistance of the intermediate transfer medium from the electric current measured in the transfer electric current recognizer; and

a voltage determination unit determining the transfer voltage to be output from the resistance computed by the resistance computation unit.

3. (Previously Presented) The transfer power supply apparatus according to claim 2, wherein the voltage determination unit computes the transfer voltage according to the resistance using a resistance-voltage table.

4. (Previously Presented) The transfer power supply apparatus according to claim 1, wherein the switching unit comprises:

a grounding device;

a first switching unit disposed to have a first point of contact connected to the transfer roller and a second point of contact selectively connected to either the output voltage generator or the grounding device; and

a second switching unit disposed to have a first point of contact connected to the transfer backup roller and a second point of contact selectively connected to either the output voltage generator or the grounding device,

wherein the second switching unit is connected to the grounding device when the first switching unit is connected to the output voltage generator.

5. (Original) The transfer power supply apparatus according to claim 4, wherein the first switching unit and the second switching unit comprise relays.

6. (Previously Presented) A transfer power supply apparatus of an image forming machine applying a voltage in order to transfer an image created on an intermediate transfer medium onto a print medium conveyed between a transfer roller and a transfer backup roller, the transfer power supply apparatus comprising:

a first transfer supply apparatus comprising,

a first voltage computation unit computing a transfer voltage corresponding to resistance of the intermediate transfer medium,

a first output voltage generator outputting the transfer voltage according to the output from the first voltage computation unit, and

a first switch disposed between the first output voltage generator and the transfer roller; and

a second transfer power supply apparatus comprising,

a second voltage computation unit computing a transfer voltage corresponding to resistance of the intermediate transfer medium,

a second output voltage generator outputting the transfer voltage according to a

signal output from the second voltage computation unit, and

a second switch disposed between the second output voltage generator and the transfer backup roller,

wherein the second switch is turned off to prevent the second transfer power supply apparatus from applying the corresponding transfer voltage to the transfer backup roller when the first switch is turned on and the first transfer power supply apparatus supplies the corresponding transfer voltage to the transfer roller.

7. (Currently Amended) The transfer power supply apparatus according to claim 6, wherein the first and second ~~output voltage computation units~~ generators comprise:

a transfer electric current recognizer measuring an electric current flowing in the intermediate transfer medium;

a resistance computation unit computing resistance of the intermediate transfer medium from the electric current measured from the transfer electric current recognizer; and

a voltage determination unit determining the transfer voltage to be output from the resistance computation by the resistance computing unit.

8. (Original) The transfer power supply apparatus according to claim 7, wherein the voltage determination unit determines the transfer voltage according to the resistance using a resistance-voltage table.

9. (Previously Presented) An image forming machine comprising:
an intermediate transfer medium on which images developed by a plurality of developing units are overlapped thereby forming a predetermined color image;

a transfer roller transferring the color image created on the intermediate transfer medium onto a print medium;

a transfer backup roller supporting the transfer roller; and

a transfer power supply apparatus comprising,

a voltage computation unit computing a transfer voltage corresponding to the resistance of the intermediate transfer medium,

an output voltage generator outputting the transfer voltage according to the output from the voltage computation unit, and

a switching unit applying the transfer voltage output from the output voltage generator selectively to the transfer roller and the transfer backup roller;

wherein the transfer power supply apparatus controls the switching unit to connect the transfer voltage output from the output voltage generator to the transfer roller when the color image created on the intermediate transfer medium is transferred to the print medium, and to connect the voltage output from the output voltage generator to the transfer backup roller when the color image is not transferred to the print medium.

10. (Previously Presented) The image forming machine according to claim 9, wherein the voltage computation unit comprises:

- a transfer electric current recognizer measuring an electric current flowing in the intermediate transfer medium;

- a resistance computation unit computing the resistance of the intermediate transfer medium from the electric current measured from the transfer electric current recognizer; and

- a voltage determination unit determining the transfer voltage to output from the resistance computation by the resistance computing unit.

11. (Previously Presented) The image forming machine according to claim 9, comprising:

- a grounding device;

- a first switching unit disposed to have one point of contact connected to the transfer roller and the other point of contact selectively connected to either the output voltage generator or the grounding device; and

- a second switching unit disposed to have one point of contact connected to the transfer backup roller and the other point of contact selectively connected to either the output voltage generator or the grounding device;

wherein the second switching unit is connected to the grounding unit when the first switching device is connected to the output voltage generator.

12. (Previously Presented) An image forming machine comprising:

- an intermediate transfer medium on which images developed by a plurality of developing units are overlapped thereby forming a predetermined color image;

- a transfer roller transferring a color image created on the intermediate transfer medium onto a print medium;

- a transfer backup roller supporting the transfer roller;

- a first transfer power supply apparatus comprising:

a first voltage computation unit computing a transfer voltage corresponding to resistance of the intermediate transfer medium,

a first output voltage generator outputting the transfer voltage according to the output from the first voltage computation unit, and

a first switch disposed between the first output voltage generator and the transfer roller; and

a second transfer power supply apparatus comprising:

a second voltage computation unit computing a transfer voltage corresponding to the resistance of the intermediate transfer medium,

a second output voltage generator outputting the transfer voltage according to the output from the second voltage computation unit, and

a second switch disposed between the second output voltage generator and the transfer backup roller;

wherein the second switch is turned off to prevent the second transfer power supply apparatus from applying the corresponding transfer voltage to the transfer backup roller when the first switch is turned on and the first transfer power supply apparatus supplies the corresponding transfer voltage to the transfer roller.

13. (Previously Presented) The image forming machine according to claim 12, wherein the first and second voltage computation units comprise:

a transfer electric current recognizer measuring an electric current flowing in the intermediate transfer medium;

a resistance computation unit computing the resistance of the intermediate transfer medium from the electric current measured from the transfer electric current recognizer; and

a voltage determination unit determining the transfer voltage to be output from resistance computation by the resistance computing unit.

14. (Previously Presented) The image forming machine of claim 12, wherein each of the first and second output voltage generators comprise:

a transfer voltage controller outputting a voltage corresponding to the signal input from the first and second voltage computation units, respectively;

a pulse width controller adjusting and controlling a pulse width establishing an output voltage at an appropriate output value;

a high voltage converting unit converting the output voltage into a high voltage; and

a high voltage generator outputting a high output voltage comprising the transfer voltage.

15. (Original) The image forming machine of claim 12, the developing units comprising:

color image forming units each provided with a photosensitive medium transferring an image onto the intermediate transfer medium;

a charging roller charging the photosensitive medium with a very high voltage; and

a development roller developing an electrostatic image created on the photosensitive medium in each color.

16. (Original) The image forming machine of claim 15, further comprising:

an intermediate transfer roller for each of the color image forming units, the intermediate transfer medium interposed between the color image forming units and each corresponding intermediate transfer roller to transfer the image created on each of the color image forming units to the intermediate transfer medium.

17-20. (Cancelled)

21. (Original) The image forming machine of claim 12, wherein the first switch comprises a first point of contact connected to the transfer roller and a second point of contact selectively connected to the first output voltage generator or a grounding device.

22. (Previously Presented) The image forming machine of claim 12, further comprising:

a control unit that controls operation of the image forming machine;

wherein the first switch comprises a mechanical contact point shifting device using a motor that switches an electrical contact point according to a signal from the control unit.

23. (Cancelled)

24. (Cancelled)

25. (Original) The image forming machine of claim 12, wherein the second switch comprises a first point of contact connected to the transfer backup roller and a second point of

contact selectively connected to the second output voltage generator or a grounding device.

26. (Original) A method of maintaining a constant transfer voltage from a power supply circuit to transfer an image from an intermediate transfer medium having a temperature-sensitive resistance value to a print medium, comprising:

measuring a change in the resistance value of the intermediate transfer medium according to a change in a temperature of a surrounding environment;

adjusting an output from the power supply circuit according to the change in the resistance value to thereby maintain the constant transfer voltage.

27. (Original) The method of claim 26, further comprising:

switching the constant transfer voltage to a transfer backup roller during a cleaning process.

28. (Original) A transfer power supply apparatus of an image forming machine applying a voltage in order to transfer an image created on an intermediate transfer medium onto a print medium conveyed between a transfer roller and a transfer backup roller, the transfer power supply apparatus comprising:

a voltage computation unit computing a voltage level corresponding to a resistance of the intermediate transfer medium; and

an output voltage generator generating a transfer voltage according to a signal output from the voltage computation unit.

29. (Previously Presented) The apparatus of claim 28, wherein the voltage computation unit comprises:

a transfer electric current recognizer measuring an electric current flowing in the intermediate transfer medium;

a resistance computation unit computing the resistance of the intermediate transfer medium from the measured electric current; and

a voltage determination unit determining the voltage level according to the resistance calculated by the resistance computation unit.

30. (Original) A printer comprising:

an intermediate transfer medium on which an image is formed and having a varying

resistance according to a change in temperature;

a transfer roller facilitating a transfer of the image from the intermediate transfer medium onto a print medium using a voltage applied to the transfer roller; and

a power supply unit providing the voltage to the transfer roller at a voltage level based on the resistance of the intermediate transfer medium.

31. (Previously Presented) A method of printing with an apparatus that comprises an intermediate transfer medium on which images developed by a plurality of developing units are overlapped thereby forming a predetermined color image, a transfer roller transferring a color image created on the intermediate transfer medium onto a print medium, and a transfer backup roller supporting the transfer roller, the method comprising:

applying a voltage to the transfer roller;
measuring a current in the intermediate transfer medium while the voltage is applied;
computing a resistance value of the intermediate transfer medium based on the measured current;
adjusting the applied voltage according to the computed resistance value; and
conveying a development agent of a created image from the intermediate transfer medium to a print medium as a result of an electrostatic field from the applied voltage.

32. (Previously Presented) The method of claim 31, further comprising:
receiving a print command; and
wherein the applying of the voltage occurs upon receipt of the print command.

33. (Previously Presented) The method of claim 31, wherein the applying of the voltage comprises connecting a high voltage to the transfer roller and a ground potential to the transfer backup roller thereby forming an electrostatic field.

34. (Previously Presented) The method of claim 31, wherein the adjusting of the applied voltage according to the computed resistance value comprises:
extracting a value of a voltage corresponding to the resistance value from a resistance-voltage table;
wherein the adjusting the applied voltage comprises adjusting of the applied voltage according to the extracted value of the voltage.

35. (Original) The method of claim 31, further comprising:
receiving a print stop command when the image is completely transferred onto the print medium; and
reversing a polarity of the transfer backup roller and the transfer roller to stop printing.